

Title (en)

METHOD FOR HOT-STAMPING GALVANIZED STEEL SHEET

Title (de)

VERFAHREN ZUR HEISSPRÄGUNG EINES VERZINKTEM STAHLBLECHS

Title (fr)

PROCÉDÉ POUR L'ESTAMPAGE À CHAUD UNE FEUILLE D'ACIER GALVANISÉ

Publication

EP 2599889 A4 20150401 (EN)

Application

EP 11819905 A 20110823

Priority

- JP 2010185801 A 20100823
- JP 2011068911 W 20110823

Abstract (en)

[origin: EP2599889A1] In a cooling a galvanized steel sheet (W), change in emissivity of a surface of the galvanized steel sheet (W) is measured in a temperature range lower than the boiling point of zinc but not lower than the ferrite transformation temperature, using an emissivity sensor (4) with an observation wavelength of 1.4 μm or longer, and pressing and quenching in a pressing and quenching apparatus (2) is started after completion of an alloying reaction has been detected based on the change in emissivity. The emissivity sensor (4) preferably has an InGaAs element or a thermopile as a measuring element.

IPC 8 full level

C23C 2/06 (2006.01); **B21D 22/20** (2006.01); **B21D 24/00** (2006.01); **C21D 1/673** (2006.01); **C23C 2/28** (2006.01); **C25D 5/26** (2006.01); **C25D 5/50** (2006.01); **G01J 5/00** (2006.01); **G01N 25/02** (2006.01)

CPC (source: EP KR US)

B21D 22/022 (2013.01 - EP KR US); **C21D 1/673** (2013.01 - EP KR US); **C21D 8/0205** (2013.01 - US); **C23C 2/06** (2013.01 - EP KR US); **C23C 2/28** (2013.01 - EP KR US); **C23C 2/29** (2022.08 - EP KR US); **C23C 2/40** (2013.01 - KR); **C25D 5/50** (2013.01 - EP KR US); **G01J 5/0003** (2013.01 - EP KR US); **G01J 5/12** (2013.01 - EP KR US)

Citation (search report)

- [A] JP 2010121181 A 20100603 - JFE STEEL CORP
- [E] JP 2011231397 A 20111117 - NIPPON STEEL CORP
- See references of WO 2012026442A1

Cited by

EP4328347A1; WO2022253956A1

Designated contracting state (EPC)

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